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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,971	02/09/2004	Sanjiv Nanda	030556	2161

23696 7590 10/19/2006  
QUALCOMM INCORPORATED  
5775 MOREHOUSE DR.  
SAN DIEGO, CA 92121

EXAMINER
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TRAN, TUAN A

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/775,971		NANDA ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Tuan A. Tran		2618	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 July 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Larsson et al. (2003/0161268).

Regarding claims 1 and 12, Larsson discloses an apparatus and method of scheduling communications, comprising: selecting first and second terminal pairs, the first terminal pair having a first transmitting terminal 5 and a first receiving terminal 4, and the second terminal pair having a second transmitting terminal and a second receiving terminal; scheduling a first signal transmission from the first transmitting terminal 5 to an intermediate terminal 7, the first signal transmission being destined for the first receiving terminal 4, wherein the scheduling of the first signal transmission occurring after determining that the first transmitting terminal 5 and the first receiving terminal 4 are spaced apart by at least a threshold distance (the indirect transmission from terminal 5 to terminal 4 via the intermediate terminal 7 occurs when terminal 4 is not a neighbor of terminal 5, wherein terminals are called neighbor, as defined by

Larsson, if the distance between them does not exceed a predetermined value) (See fig. 3 and page 2 [0017]); scheduling, simultaneously with the first signal transmission, a second signal transmission from the second transmitting terminal to the second receiving terminal (See fig. 3 and page 6 [0095]); and scheduling a power level for each of the first and second signal transmissions that satisfies a target quality parameter for each of the intermediate terminal and the second receiving terminal (See page 6 [0097], page 7 [0099-0110], page 11 [0166-0170]).

Claims 13, 28 and 31 are rejected for the same reasons as set forth in claims 1 and 12, as apparatus.

Regarding claims 2-7, Larsson discloses as cited in claim 1. Larsson further discloses the scheduling of the first signal transmission comprises determining a direct signal transmission from the first transmitting terminal 5 to the first receiving terminal 4 simultaneously with the second signal transmission does not satisfy a target quality parameter for the first receiving terminal 4 and the second receiving terminal (See page 6 [0096], page 8 [0122] to page 9 [0130]) wherein the determination comprises attempting to compute a power level for each of the direct signal transmission and the second signal transmission that satisfies the target quality parameter for each of the first receiving terminal 4 and the second receiving terminal (See page 9 [0134-0139], page 11 [0166-0170]) or is a function of distance (See page 9 [0131]) or a function of path loss (See page 7 [0110]) between the first transmitting terminal 5 and the first receiving terminal 4 or the second receiving terminal, wherein the first and second terminal pairs are selected from a piconet of terminals (See fig. 3) and at least a portion of the path

lost information is derived from a constructed piconet topology map (See fig. 5).

Claims 14-19, 29 and 32 are rejected for the same reasons as set forth in claims 2-7, as apparatus.

Regarding claims 8-9, Larsson discloses as cited in claim 1. Larsson further discloses the steps of: selecting a third terminal pair having a third transmitting terminal and a third receiving terminal; scheduling a third signal transmission therebetween simultaneously with a retransmission of the first signal transmission from the intermediate terminal 7 to the first receiving terminal 4; and scheduling a power level for each of the retransmission of the first signal transmission and the third signal transmission that satisfies a target quality parameter for each of the first receiving terminal 4 and the third receiving terminal (See fig. 3 and page 6 [0095-0096]) and page 11 [0166-0170]).

Claims 20-21 are rejected for the same reasons as set forth in claims 8-9, as apparatus.

Regarding claim 10, Larsson discloses as cited in claim 1. Larsson further discloses the step of scheduling a different spreading code for each of the first and second signal transmissions (See page 7 [0098,0102], page 12 [0176-0177]).

Claims 22, 30 and 33 are rejected for the same reasons as set forth in claim 10, as apparatus.

Regarding claim 11, Larsson discloses as cited in claim 1. Larsson further discloses the parameter comprises a carrier-to-interference ratio (See page 7 [0110]).

Claim 23 is rejected for the same reasons as set forth in claim 11, as apparatus.

Regarding claims 24-27, Larsson discloses as cited in claim 13. Larsson further discloses the communication terminal comprises: a receiver 122 configured to receive communications from a plurality of terminals and a transmitter 122 configured to transmit communications to the plurality of terminals; the scheduler 113 being communicatively coupled to the receiver and the transmitter; a receiving signal processor 121 configured to de-spread communications between the receiver 122 and the scheduler 113 and a first user interface (display); and a transmitting signal processor 121 configured to spread communications between the scheduler 113 and a second user interface (keypad) and the transmitter 122 (See figs. 3, 14 and page 12 [0176-0177, 0186]).

### ***Response to Arguments***

Applicant's arguments filed 07/27/2006 have been fully considered but they are not persuasive.

The Applicant argued that Larsson does not teach the recently claimed limitation (See Remark, page 9). The Examiner respectfully disagrees with the Applicant argument because the indirect transmission from terminal 5 to terminal 4 via the intermediate terminal 7 occurs when terminal 4 is not a neighbor of terminal 5, wherein terminals are called neighbor, as defined by Larsson, if the distance between them does not exceed a predetermined value (See fig. 3 and page 2 [0017]). For that reason, the rejections are proper and stand for all the pending claims.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A. Tran whose telephone number is (571) 272-7858. The examiner can normally be reached on Mon-Fri, 10:00AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Tuan Tran

  
Matthew D. Anderson  
SPE - 2618